

Vessel Discharge Group
Wastewater Information
October 2, 2003

Vessel Effluent Characterization (both small and large commercial vessels)

Effluent Type	Typical BOD	Typical SS	Typical Bacteria	Typical Chlorine
Raw Blackwater	<3000-6,000 mg/l	<1600-15,000 mg/l	<200,000col/100 ml	NS
Raw Graywater*	95-382mg/l	52-186mg/l	99,000-118,000	.03mg/l
Treated Blackwater*	6.7-105mg/l	2.7-478mg/l	2-18,000	.07-25mg/l
Treated Graywater*	NS	NS	1225	.05-10mg/l

* Based on the State of Alaska's Cruise ship monitoring data 2001-2002

Effluent Standard Comparison

System Type	BOD-5 standard	TSS Standard	Bacteria Standard	PH standard	TR Chlorine Standard
Type I MSD	-----	No visible floating solids	1000col/100ml	-----	-----
Type II MSD	-----	150mg/100ml	200col/100 ml	-----	-----
Alaska Standards for Continuous Discharge Blackwater from large commercial vessels ¹	30mg/l monthly avg. 45 mg/l weekly avg.	30mg/l monthly avg. 45 mg/l weekly avg.	20col/100ml 30 day geo mean	3.0-9.0	10mg/l
Alaska Standards Graywater and blackwater from other vessels ²		150mg/l	200col/100ml		
Secondary Treatment standards ³	30mg/l avg. 50 mg/l daily max.	30mg/l avg. 50 mg/l daily max.	15 col/100ml avg. 50 col/100ml daily max.	3.0-9.0	1 mg/l

¹ Code of Federal Regulations (CFR) 159.309

² Alaska Regulations Section 46.03.463, subsections b and c

³ CMR Chapter 525, Section 3, Subsection 3. And CFR 133.102